

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PTR SECTION STAFF GUIDANCE

STANDBY UNITS/SPARE PARTS FOR DISINFECTION UNITS AT SURFACE WATER TREATMENT PLANTS

Rules Affected: 30 TAC, §290.39(d)(2) and 290.42(e)(3)(C)

Background:

Public Water Systems (PWSs) that treat surface water or groundwater under the direct influence of surface water (GUI) must provide continuous disinfection in order to meet the treatment technique requirements of the Surface Water Treatment (SWTRs). Consequently, these treatment plants must provide standby disinfection equipment to ensure uninterrupted operation.

Guidance:

PWSs that use free chlorine as a primary disinfectant must provide a standby unit for each different size of disinfection equipment in operation as required by 30 TAC §290.42(e)(3)(C). However, there are a variety of reasons why this requirement is not strictly applicable to treatment plants that utilize chloramines, chlorine dioxide or ozone. For example, while ammonia is useful in forming chloramines that can reduce the formation of certain disinfection by-products, it is not an essential component of the disinfection process. Another example is the requirement for redundant ultraviolet (UV) reactors required at water systems which are classified as a Bin2 or higher system per the Long Term 2 Enhanced Surface Water Treatment Rule. In other circumstances, providing standby units may be prohibitively expensive for installations such as those for ozone or chlorine dioxide; therefore, facilities which utilize these disinfectants are often able to convert to free chlorine as a primary disinfectant in the event of an equipment failure. Facilities which utilize chloramines, carbon dioxide or ozone will not be required to provide standby treatment units as long as they are able to maintain an adequate level of free chlorine disinfection in the event of equipment failure.

Standby ammonia feeders will not be required under the following conditions:

- The PWS has a backup chlorinator or replacement parts (including diaphragms, regulators, injectors, pumps, etc.) for each type of chlorinator which is used for disinfection;
- The treatment plant's operations and maintenance (O&M) manual must document the protocol which will be followed in the event of an ammonia feed equipment failure;
- The PWS must notify the local TCEQ regional office by the end of the next business day following the equipment failure; and
- The PWS must notify the local TCEQ regional office by the end of the next business day after the equipment is returned to service.

Standby chlorine dioxide and ozone generators will not be required under the following circumstances:

- The PWS has the ability to meet the disinfection requirements using free chlorine as the primary disinfectant;

- The PWS has replacement rotameters for each size used in the chlorine dioxide or ozone generator;
- The PWS has a backup chlorinator or replacement parts (including diaphragms, regulators, injectors, pumps, etc.) for each type of chlorinator which is used for disinfection;
- The treatment plant's O&M manual must document the protocol which will be followed in the event of a generator failure;
- The PWS must notify the local TCEQ regional office by the end of the next business day following the equipment failure; and
- The PWS must notify the local TCEQ regional office by the end of the next business day after the equipment is returned to service.

Since the concentration of disinfection by-products will be affected by the inability to use a secondary alternate disinfectant, the PWS may request a delay in routine compliance sampling for regulated disinfection by-products in the event of an equipment failure. To request a delay in sample collection, please call 512-239-4691 and ask to speak with a member of the TCEQ Drinking Water Quality Team.

Please note that a compliance sample is still required to be collected within the quarterly sampling period, even if the failure has not been repaired.

Finalized and Approved by:

Joel Klumpp, Plans and Technical Review Section, 11/10/2016

If no formal expiration date has been established for this staff guidance, it will remain in effect until superseded or canceled.

Revision History

Date	Action	Action by
5/23/16	Revised	Sam Turner
6/7/2016	Revised	Mark Mikols
9/12/2016	Revised	Marlo Berg